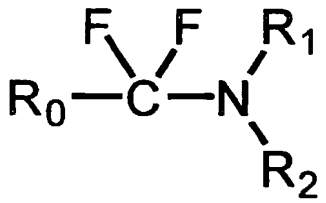
Claims

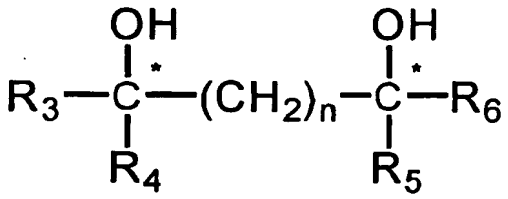
[1] A process for producing an optically active fluoro compound represented by formula (3) characterized in that the process comprises reacting a fluoroamine represented by formula (1) with an optically active diol represented by formula (2):

[F1]



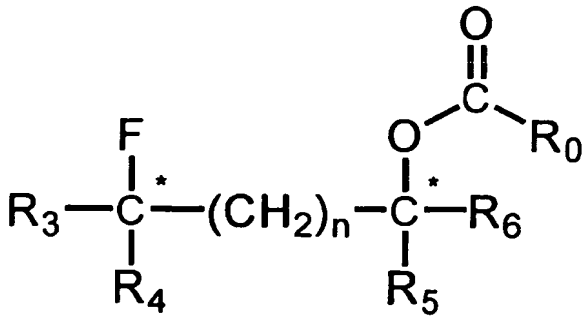
(1)

[F2]



(2)

[F3]



(3)

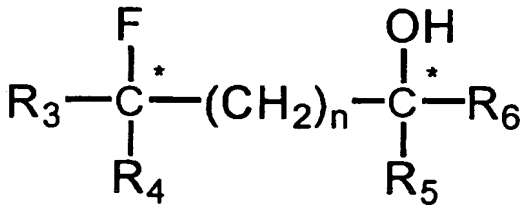
(wherein each of R_0, R_1 and R_2, which may be identical to or different from one another, represents a hydrogen atom, or an alkyl group or aryl group which may have a substituent; and two or more groups of R_0, R_1 and R_2 may be linked to form a ring structure; each of R_3, R_4, R_5 and R_6 represents a hydrogen atom, or an alkyl group or aryl group which may have a substituent; R_3 and R_4 are different from each other; R_5 and R_6 are different from each other; the carbon atom to which R_3 and R_4 are bound is an asymmetric carbon atom; the carbon atom to which R_4 and R_5 are bound is an asymmetric carbon atom; and n is an integer of 0 to 3).

[2] A process for producing an optically active fluoro compound as described in claim 1, wherein R_0 of the fluoroamine represented by formula (1) is a 3-methylphenyl group or a 2-methoxyphenyl group, and each of R_1 and R_2 of the fluoroamine is an ethyl group.

[3] A process for producing an optically active fluoro compound as described in claim 1 or 2, wherein the reaction is carried out thermally or under irradiation with a microwave and/or an electromagnetic wave having a wavelength in the vicinity of a microwave region.

[4] A process for producing an optically active fluoroalcohol represented by formula (4) characterized in that the process comprises hydrolyzing an optically active fluoro compound which has been produced through a process as recited in any of claims 1 to 3:

[F4]



(4)

(wherein R_3, R_4, R_5 and R_6 represents a hydrogen atom, or an alkyl group or aryl group which may have a substituent; R_3 and R_4 are different from each other; R_5 and R_6 are different from each other; the carbon atom to which R_3 and R_4 are bound is an asymmetric carbon atom; the carbon atom to which R_5 and R_6 are bound is an asymmetric carbon atom; and n is an integer of 0 to 3).